

In re Patent Application of
ANSORGE ET AL.
Serial No. Not Yet Assigned
Filed: Herewith

In the Claims:

Claims 1-4 (cancelled).

5. (new) A method for encoding wideband speech comprising:

sampling the speech to obtain successive voice frames each comprising a predetermined number of samples; and
determining for each voice frame parameters of a linear prediction model, the parameters comprising a long-term excitation word extracted from an adaptive coded directory and a short-term excitation word extracted from a fixed coded directory;

the extraction of the long-term excitation word being performed using a first formantic weighting filter;

the extraction of the short-term excitation word being performed using a second formantic weighting filter and cascaded with a third formantic weighting filter;

the first and second formantic weighting filters having respective transfer functions, and a denominator of the transfer function of the first formantic weighting filter being equal to a numerator of the transfer function of the second formantic weighting filter.

6. (new) A method according to Claim 5, wherein the first and third formantic weighting filters are equal.

7. (new) A method for encoding speech comprising:
sampling speech to obtain successive voice frames each comprising a predetermined number of samples;

determining for each voice frame parameters of a linear prediction model, the determining comprising

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extracting a long-term excitation word from an adaptive coded directory using a first weighting filter, and

extracting a short-term excitation word from a fixed coded directory using a second weighting filter cascaded with a third weighting filter.

8. (new) A method according to Claim 7, wherein the first and second weighting filters having respective transfer functions, and a denominator of the transfer function of the first weighting filter is equal to a numerator of the transfer function of the second weighting filter.

9. (new) A method according to Claim 8, wherein the first weighting filter comprises a first formantic weighting filter; and wherein the second weighting filter comprises a second formantic weighting filter.

10. (new) A method according to Claim 7, wherein the first and third weighting filters are equal.

11. (new) A speech encoding device comprising:
sampling means for sampling the speech to obtain successive voice frames each comprising a predetermined number of samples; and

processing means for determining for each voice frame parameters of a linear prediction model, said processing means comprising

first extraction means comprising a first formantic weighting filter for extracting a long-term excitation digital word from an adaptive coded

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directory, and

second extraction means comprising a second formantic weighting filter and cascaded with a third formantic weighting filter for extracting a short-term excitation word from a fixed coded directory,

said first and second formantic weighting filters having respective transfer functions, and a denominator of the transfer function of said first formantic weighting filter being equal to a numerator of the transfer function of said second formantic weighting filter.

12. (new) A speech encoding device according to Claim 11, wherein the first and third formantic filters are equal.

13. (new) A speech encoding device comprising:
a sampling circuit for sampling the speech to obtain successive voice frames each comprising a predetermined number of samples; and

a processor for determining for each voice frame parameters of a prediction model, said processor comprising

a first extraction module implementing a first weighting filter for extracting a long-term excitation digital word from an adaptive coded directory, and

a second extraction module implementing a second weighting filter and a third weighting filter that are cascaded together for extracting a short-term excitation word from a fixed coded directory.

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14. (new) A speech encoding device according to Claim 13, wherein the prediction model comprises a linear prediction model

15. (new) A speech encoding device according to Claim 13, wherein the first and second weighting filters have respective transfer functions, and a denominator of the transfer function of the first weighting filter is equal to a numerator of the transfer function of the second weighting filter.

16. (new) A speech encoding device according to Claim 13, wherein the first and third weighting filters are equal.

17. (new) A speech encoding device according to Claim 13, wherein the first weighting filter comprises a first formantic weighting filter; and wherein the second weighting filter comprises a second formantic weighting filter.

18. (new) A mobile cell phone comprising:
an antenna;
transmission circuitry connected to said antenna;
and
an encoder connected to said transmission circuitry
and comprising

a sampling circuit for sampling speech to obtain successive voice frames each comprising a predetermined number of samples, and

a processor for determining for each voice frame parameters of a prediction model, said

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processor comprising

a first extraction module implementing a first weighting filter for extracting a long-term excitation digital word from an adaptive coded directory, and

a second extraction module implementing a second weighting filter and a third weighting filter that are cascaded together for extracting a short-term excitation word from a fixed coded directory.

19. (new) A mobile cell phone according to Claim 18, wherein the prediction model comprises a linear prediction model

20. (new) A mobile cell phone according to Claim 18, wherein the first and second weighting filters have respective transfer functions, and a denominator of the transfer function of the first weighting filter is equal to a numerator of the transfer function of the second weighting filter.

21. (new) A mobile cell phone according to Claim 18, wherein the first and third weighting filters are equal.

22. (new) A mobile cell phone according to Claim 18, wherein the first weighting filter comprises a first formantic weighting filter; and wherein the second weighting filter comprises a second formantic weighting filter.